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DEMOCRATIC PROSPECTS IN IMPERIAL RUSSIA:
THE REVOLUTION OF 1905 AND
THE POLITICAL STOCK MARKET

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Democratic prospects in Imperial Russia:

The revolution of 1905 and the political stock market

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Abstract

This paper assesses the attitude of investors towards Democratic change by performing an event study using Russian government bonds. The Revolution of 1905 offers an ideal occasion as, alongside the related revolutionary events, it was accompanied by two opposing constitutional changes within a short period of time. This study contributes to the debate as to whether Imperial Russia could possibly have followed other Western European states, i.e. gradually adopting a democratic rule, or whether a revolution was inevitable – as the writing of Soviet history suggests. Furthermore, the Russo-Japanese War is taken into consideration. The results are basically in line with the literature on the impact of wars on capital markets. Prices of two types of bonds on both the Saint Petersburg and the Berlin stock exchange are employed. As it turns out, investors in the East and West were largely consistent in their reactions.

Keywords: Russian economic history; political stock market; Democratic change; impact war on stock markets

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The events of 1905 were a prologue to the two revolutions of 1917, that of February and that of October. In the prologue all the elements of the drama were included, but not carried through. (Trotsky 1932, p.12)

Overview

In modern Russian history a lot of attention has been given to the Bolshevik seizure of power in 1917, since Soviet Communism took a pivotal role in shaping the world's history and politics in the 20th century. As shocking as it was for the elite throughout Europe, the Communist revolution did not come out of the blue. Years before the far-reaching events of February and October 1917, Russia's political and economic situation at the beginning of the 20th century was far from stable. The looming defeat in a costly military engagement in the Far East against Japan and the deteriorating conditions of living had led to severe social unrest. The Revolution of 1905 – in many aspects a blueprint for the later courses of action – resulted in the adaption of large constitutional rights in the hitherto autocratically-ruled state.

The sudden political change was a watershed for the country's future political development. The participation of a much larger share of the population embodied a turn towards democracy. However, the granted reforms were revoked shortly afterwards and the old autocratic order was restored: Any expectation of fundamental political change turned out to be short-lived. Whether Russia could have gone the way of other western European states – gradually adopting constitutional democratic rights – or whether its inability inevitably led to the Bolshevik Revolution has been disputed among historians ever since (Ascher 2004, xi).²

This paper analyses how the various political events during the period of the revolution were perceived on the stock markets of Saint Petersburg and Berlin. An event study of the two most important types of Russian government bonds assesses the reaction of capital owners, which is particularly interesting in two aspects:

² Soviet historians and socialist theorists like Leo Trotsky see the root of the revolution rather in the system itself (Frankel 2007, p.57) and the consequent uprising as therefore inevitable. The Tsar's notion of the political development of his country was quite the opposite; He was optimistic in keeping the traditional way of authoritarian policies as they had been existent for centuries (Harcave 1964, p.18). For more recent historical evaluations see, for instance, Walkin (1964), Fröhlich (1981) or Bradley (2002).

First, it helps to reveal their view on the implementation of democratic institutions and rights. As these bring political and economic freedom and, as a consequence, stability, growth and prosperity,³ it should generally be welcomed by capital owners. They could, on the other hand, oppose any reforms of that kind since the outcome might be the redistribution of income, an increased provision of public goods and finally an increase in taxation. Also, foreign capital might be attracted by an authoritarian regime.⁴ As it turns out investors did not welcome the constitutional changes. At the same time, they did not realise the imminent threat of a revolution.⁵ Such a result implies that a gradual democratisation of Imperial Russia was seen as a realistic option in the long run – as opposed to the argument of Soviet historians.

Second, both the Saint Petersburg and the Berlin stock exchange are considered. This approach stresses the dissent between investors in the East and West regarding the appraisal of democratisation. Unlike Berlin, the efficiency of the Petersburg stock exchange has not been well-investigated.⁶ It was considerably smaller than other European markets at that time and traded less (Borodkin et al. 2006). However, the securities employed in this study developed almost equally at the two stock exchanges. The outcome of the event study suggests that investors' behaviour did not differ substantially between Imperial Russia and the German Empire.

Analogically, the economic effect of the military campaign in the Russo-Japanese war is established. The struggle for dominance in the Far East with Japan reached its peak directly before the revolution.⁷ Though it finally faced a disastrous and costly adventure, Russia aimed at the chance to expand influence in a strategically important region. In this context, Russia's recent military involvements come to mind, which have had quite a measurable effect on an economic level: the Rouble has been depreciating massively, and net capital outflow has regained the high level of the economic crisis in 2008. This development is also reflected in the stock market development and, particularly, government bonds, which will be the basis of this analysis (Kholodilin et al. 2014). Empirical evidence on the extent to which capital market

³ In particular, the protection of property rights or the rule of law can facilitate investment and growth.

⁴ Many studies find foreign direct investment to be fostered by authoritarian rule, especially in peripheral countries (Oneal 1994; Li & Resnick 2003; Mathur & Singh 2013).

⁵ A possible threat of revolution is considered as another important driver of democratic transition in recent literature, see Acemoglu and Robinson (2000), Morrison (2011), or Aidt and Franck (2015).

⁶ At that time the Berlin stock exchange was already highly developed (see, for instance, Wetzel 1996, Gelman & Burhop 2008 or Lehmann 2014).

⁷ In fact, the war worked as a catalyst for the revolutionary events in 1905 (Löwe 2007b).

prices are affected by military conflicts is ambiguous.⁸ This paper contributes to that literature by employing another conflict that has not yet been the object of such analysis: Only some of the war events that are considered historically important turn out to have impacted the stock market significantly. Furthermore, no home bias of Russian investors is detectable, since both markets reacted almost equally.

In the following section the historical background is illustrated. Also, the events to be examined afterwards are delineated. Next, the data and the methodology are presented, which constitute – together with the related hypotheses – the general research approach. After the results have been outlined, the final section concludes.

Economic and Political Backwardness

The economic backwardness of Imperial Russia became evident to its rulers at the latest when it was defeated in the Crimean war. During the war the Russian superiority in manpower was, among other things, cancelled out by a lack of modern weapons and railroads. In the following decades modernisation efforts were undertaken – with initial success. Serfdom was abolished in 1861, the educational system and the military were modernised, economic and societal reforms were implemented⁹ – resulting in extremely high growth rates of GDP and industrial production during the 1890s. Regardless of the temporary economic advance Russia remained a largely autocratic state, unlike many other European states at that time. (Schmidt 2003 p.83ff.) Attempts to promote the self-government of rural municipalities were prevented by the interests of the aristocracy and central bureaucracy – and not at least by the Tsar himself (Löwe 2007 a, p.41ff.). Likewise, the peasants' standard of living remained quite low. The areas of land that were allotted to them after the abolishment of serfdom were too undersized to guarantee a fair standard of living (Hoch 2004). Furthermore, even 40 years after the liberation of serfs, the redemption payment for former landlords still amounted to a large sum (Hoch 1994). In addition, most parts of the population, including an emergent middle class, were still excluded from political participation.

⁸ Often, impact of the well-regarded decisive events of a war are found to be strong (Frey and Kucher 2000; Brown and Burdekin 2002). Other authors, like Oosterlinck (2003) or Willard et al. (1996) do not find such a distinct pattern.

⁹ Although not all of the ambitious reform plans could be implemented due to the varying interests. Former land owners, for instance, demanded financial compensation, which could not be given by the government as it was financially restrained itself. In fact, many former serfs remained as dependent as before (Hoch 1991).

After the turn of the century the high growth rates of industrial production could not keep pace with the population growth, as reflected in Table 1. In the absence of a prospering economy, and in light of a stagnating standard of living, structural problems came to light.¹⁰

Table 1: Various growth rates in Imperial Russia

Period	Population	Coal	Oil	Pig iron	Grain
1880–1885	11.4%	29.8%	411.4%	17.8%	-
1885–1890	8.3%	40.9%	105.6%	75.5%	-
1890–1895	5.2%	51.3%	66.9%	55.9%	-
1895–1900	7.3%	77.5%	67.4%	102.1%	10.0%
1900–1905	8.3%	15.6%	-27.8%	-6.8%	1.2%

Source: (Kahan 1989, p.69)

In the wake of the Russo-Japanese war the economic situation further worsened. The deployment and support of troops in the Far East had a direct impact on the welfare of the Russian population, resulting in continuing upheaval. At the same time, the unsuccessful course of the war further reduced the government’s reputation. In the memories of Count Sergey Witte – a formative figure for Imperial Russian policy at the turn of the century¹¹ – the war functioned as a catalyst: “It came the year 1905. The disturbance in the heads of all social classes grew and grew, related to our inglorious defeats in the Far East” (Witte 1923, p.197).

The unrest culminated on 9 January 1905,¹² when a large group of striking workers – estimated at 50,000 to 100,000 people – marched to the Winter Palace in order to express their discontent and hand over a petition for more democratic rights. Though initially peaceful, the mass was fired at by tsarist troops, resulting in hundreds of casualties. This so-called *Bloody Sunday* gave rise to large uprisings all over the country.¹³ These did not abate until the release of the October Manifesto on 30 October 1905. In this document the Tsar promised far-reaching constitutional

¹⁰ The dependency of autocratic regimes on economic prosperity appears to be a general phenomenon, as the recent discussions on the People’s Republic of China illustrate. As growth ceases, the demands for political change gain weight (see, for instance, *The Economist* 25 October 2014).

¹¹ Count Witte – serving among other things as Russian minister of finance – was largely responsible for fostering railway construction and industrialisation. Later, he became the main negotiator for peace with Japan and the author of the October Manifesto – as delineated below.

¹² That date corresponds to 22 January in the Julian calendar which had been still in use in Imperial Russia. All the dates mentioned hereafter refer to the Gregorian calendar.

¹³ With its mainly agrarian-based economy, Russia was heavily affected by the uprisings in the countryside. For a more detailed study of the campaign there see Miller (2013).

rights, above all the introduction of a broad franchise for a newly established parliament – the Duma. It furthermore included extensive civil rights guaranteeing religious and political freedom as well as freedom of press (Dahlmann 2005, p.125ff.). Within a short period of time Russia’s political system was radically changed.

The volatile political situation had still not been pacified. While the liberal movement saw its demands fulfilled, the socialist fraction of the formerly united opposition continued their protest. On 5 December 1905 a general strike paralysed economic and social life throughout Russia. Though the protest was finally brought to an end by force, it had a bearing on the political level: the exact shape of the new franchise was immediately announced by the government.¹⁴

The year 1906 saw the actual implementation of the intended changes and extensions of political rights. Parties and other political organisations were founded in large numbers. On 23 April the new constitution became law, followed by the solemn opening of the parliament on 10 May (Dahlmann 2005, p.128ff.).

Table 2: Overview political events

Date	Event
22 January 1905	Bloody Sunday
30 October 1905	October manifesto
5 December 1905	General strike
23 April 1906	Commencement of new constitution
10 May 1906	Opening of the first Duma
21 July 1906	Dissolution of the first Duma
20 February 1907	Opening of the second Duma
2 June 1907	Dissolution second Duma and new franchise

All dates refer to the Gregorian calendar

The eventual activity of the Duma did not match the high expectations of the new political era. In many important questions – for instance, the redemption payments for peasants, the dealing

¹⁴ The new suffrage widened the electorate to a great degree. Still, as a census suffrage, it strongly discriminated against the low income classes.

of private property and civil rights – the parliament and the government were heavily opposed. By 21 July of the same year, the Tsar made use of his constitutional right to dissolve the Duma.¹⁵

Its successor – which started parliamentary activity in February 1907 – was not more convenient for the Tsar. The electorate did not welcome the sudden closing of the old Duma, which was accordingly a new composition of the old one. The members of parliament were even more leftist and radical, which made broad political consent impossible. The result was, once again, dissolution by the Tsar. This time, however, it was accompanied by a restriction of the franchise, which was a clear violation of the constitution. Extremely undemocratic in its nature, the newly decreed franchise was supposed to constitute a parliament voting in accordance with the government (Schmidt 2003, p.102ff.). The period of democratisation in Imperial Russia, initiated in 1905, did not even last for two years.

The Struggle for Influence in the Far East

Antecedent to the revolutionary campaign was a conflict with Japan for influence in the Far East, which had been intensifying since the turn of the century. The pursuing of long-term interests as well as short-term diplomatic miscalculation by the Russian government led to an eventual escalation of the conflict: The eastward expansion was part of Count Witte's strategy to foster economic growth and open up new markets; a prominent symbol of that strategy was the completion of the Trans-Siberian Railway in 1904. It connected European Russia with Vladivostok at the Pacific Ocean and carried huge economic and military potential. In response to this threat, Japan demanded that Russia restrict its interests in the whole region,¹⁶ but the Russian government did little to comply. Russia completely ignored Japanese demands, not least due to the feeling of superiority over a non-European nation (Frankel 2007, p.54ff.).¹⁷

As a result, Japan launched a surprise attack on Port Arthur. The Russian government was not paralysed for long, but was rather optimistic during the course of the war and hoped for the enthusiasm in large parts of the population which had been present in former military conflicts.

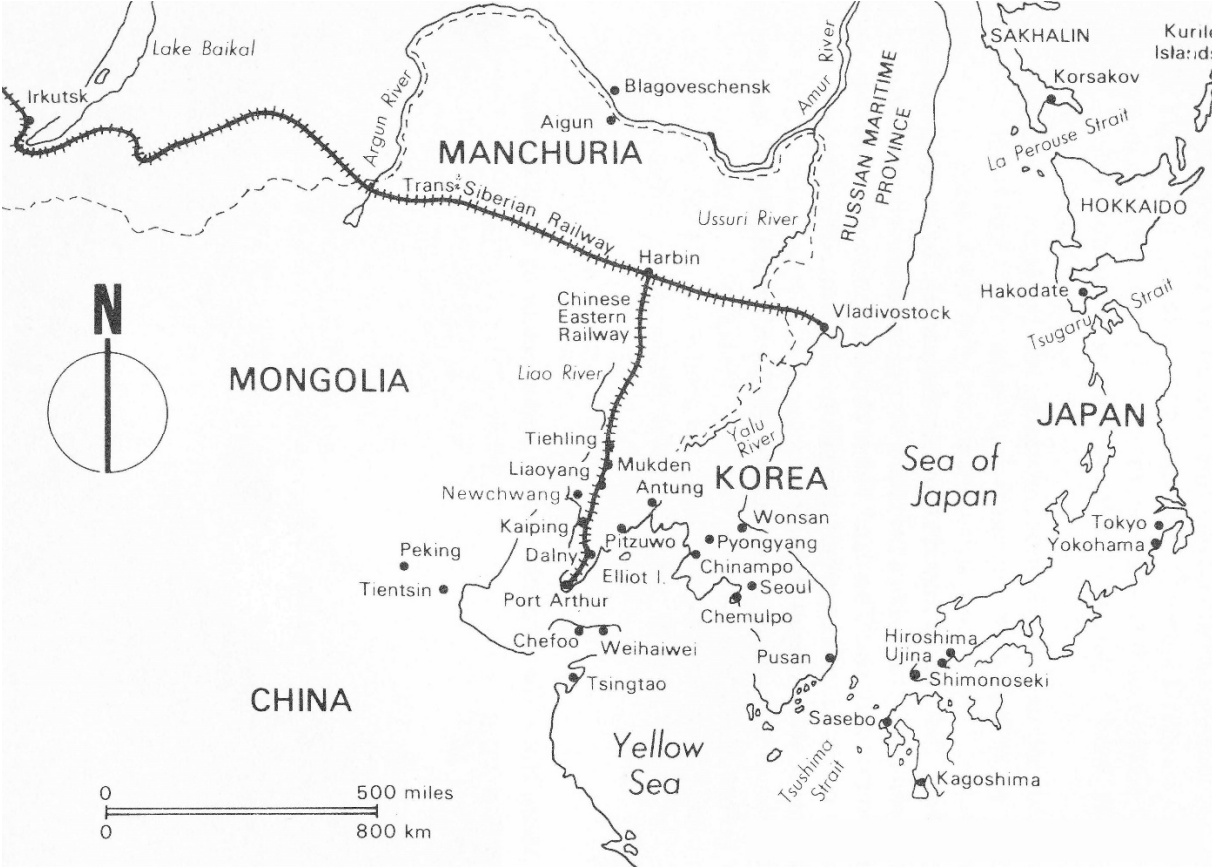
¹⁵ Though this is clearly showing the unwillingness of the Tsar to give up all of his political powers, the political factions did their bit, too. Most of them were newly founded and consequently the majority of the Duma was not well-organized and failed to find a consensus. A government responsible to or at least cooperating with the parliament could hardly emerge in that way, which furnished the Tsar with the means to dissolve the Duma (Galai 2005).

¹⁶ Since the Boxer-rebellion Russia had controlled Manchuria, while Japan had de facto annexed Korea in 1895 (Connaughton 1988, p.3f.).

¹⁷ For a comprehensive study of the origins of the war, see (Nish 1985).

That hope was in vain, as was the belief in the superiority of the Russian army. Alongside the war situation in the Far East theatre the troops' morale worsened. At the same time, the population's consensus of the war further decreased and the mobilisation of new troops became more and more difficult (Löwe 2007b, p.147ff.).

Figure 1: Map of the war theatre



Source: Connaughton 1988.

In the following, the Russo-Japanese war is outlined. Table 3 lists the most decisive and significant events.¹⁸ As it turns out, in the majority of the battles the Imperial Russian army suffered defeats. In sharp contrast to the self-understanding of a traditional European power,

¹⁸ This section identifies the most decisive events of the war. If not marked differently, it is based on the work of Richard Connaughton (1988), who provides a detailed view of the war campaigns, and on the work of Ian Nish (2005). Bear in mind that only new information on the course of the war – decisive battles of strategic importance – are useful for an event study, which ascribes a change in prices to the altering expectations of investors.

the Japanese army was de-facto superior to the Russians in many aspects. Despite the recent completion of the Trans-Siberian Railways the logistical challenge of sending and maintaining troops so far from the mainland was formidable. Russia's military – though large in numbers – consisted mainly of peasants whose motivation to fight a remote war against an unknown enemy was rather low. Japan on the other hand had put in great efforts to modernise its military. Based on the Prussian and British model – both leaders in their respective branch – Japan built highly trained and specialised forces, which could be employed directly from its doorstep in the Japanese Sea, Korea and Manchuria (Connaughton 1988, p.12ff.).

Table 3: Overview of war events

Date	Event
9 February 1904	First Japanese attack
30 April 1904	Battle at Yalu River
10 August 1904	Battle of the Yellow Sea
2 January 1905	Capitulation of port Arthur
10 March 1905	Mukden Battle
27 May 1905	Battle of Tsushima
27 June 1905	Mutiny on Battleship Potemkin
5 September 1905	Treaty of Portsmouth

All dates refer to the Gregorian calendar

As the rivalry for influence in Korea and Manchuria peaked, the Japanese government demanded a declaration that recognised Korea as being out of the Russian sphere of interest.¹⁹ In the absence of any response, Japan answered with a military launch. On 9 February 1904 the Japanese navy launched an attack on Port Arthur, damaging several Russian ships. No formal declaration of war preceded the attack, making it a particularly valuable event for study – notwithstanding the small strategic relevance.

The first major confrontation on land was the Battle of Yalu River. On 30 April 1904 the Japanese army conquered all the Russian positions, though at a great cost of life. The Japanese fortunes of war continued at the Yellow sea, where Japan gained full control after the battle on 10 August 1904.

¹⁹ In turn, Japan renounced any interest in Manchuria.

In the first half of the following year came the most decisive battle of the war. On 2 January 1905 Port Arthur surrendered after a 154-day siege. Russia finally lost its strategically important sole naval base in the region and the remains of the Russian Far East fleet were destroyed. The impact on Russian public opinion and the troop's morale was immense. Russia did not fare much better in the Battle of Mukden in March of the same year. Eventually, it was repulsed from Manchuria – though again the losses on the Japanese side were huge. The last critical naval battle was fought at the Tsushima strait. In a risky endeavour the Russian Baltic fleet had circumnavigated Africa, only to meet the same fate as its Far East counterpart. After this final trump card had failed to succeed, the defeat of Russia at all stages of the theatre was undeniable.

Regardless of the course of the war so far, both sides showed a certain level of war weariness. The ongoing engagement was a financial and societal burden for Japan as well. When President Theodore Roosevelt of the United States offered to negotiate a peace treaty, the belligerents were keen to accept. In a long and tough conference, Japan could not take advantage of the fact that it had won nearly every battle. The Treaty of Portsmouth, signed on 5 September 1905, comprised the cession of Manchuria, southern Sakhalin and Kwantung. Apart from these minor territorial losses, the Russian delegation chaired by Count Witte was successful: Japanese demands for high reparation payments as well as more territorial claims were not fulfilled. Considering Russia's performance on the battlefield, the peace treaty was to its best advantage.²⁰

Democratisation in Imperial Russia

During the revolutionary period, Russia's political system underwent considerable changes within a short period of time. Generally, a larger political participation of the masses can have numerous results, certainly altering the structure of politics as such. There is evidence that income is redistributed from the richer to the poorer parts of the population – now able to use its political power in order to enforce their claims (Husted and Kenny 1997; Justman and Gradstein 1999; Acemoglu and Robinson 2000). Such a development is often accompanied by growing government expenditures (Aidt and Jensen 2009, p. 379) as well as an increase in the provision of public goods (Husted and Kenny 1997; Lott 1999; Aidt et al. 2006). In the end,

²⁰ Correspondingly, the Japanese public perceived the outcome of the negotiations as extremely humiliating. In the following days, Tokyo was shaken by violent anti-peace riots (Westwood 1986, p.160ff).

these expenditures can be a burden for both the treasury and for firms.²¹ Authoritarian governments, by contrast, often claim to be a guarantor for political stability. Such a stable environment, combined with lower potential financial strains, is in the best interest of investors – visible, for instance, in the recent Turkish parliamentary elections in November 2015.²²

Despite the costs, the ruling elites extended the voting rights in most cases by choice. One main explanation is the importance of specific political constellations, in particular, political competition (Lizzeri and Persico 2004; Turner and Zhan 2010). The other common argument is that the participation of a larger share of the population can avoid a threat of revolution, which can arise in the disenfranchised masses (Acemoglu and Robinson 2000; Morrison 2011; Aidt and Franck 2015).²³ Such a stabilising element can counterweight the possibly negative outcome of an extension of democratic rights—the net effect is unclear.

However, the existence of a “democratic advantage” for sovereign bonds issued by a corresponding regime is denied in recent literature (Saiegh 2005; Archer et al. 2007; Beaulieu et al. 2012). Turner and Zhan (2012) find a widening of the franchise in 1867 as disprized by investors at the London Stock exchange. In the Kingdom of Saxony the franchise was altered twice in close succession. Here, investors realised the negative effects of an enfranchisement of the lower and middle classes (Lehmann-Hasemeyer et al. 2014). Generally, investors seemed to be rather sceptical towards democracy.

This study contributes by covering another market in a political environment that largely differed from other countries at that time. As the democratic reforms were revoked shortly after coming into effect in 1905, it exploited a virtual natural experiment. The general approach is comparable to that of the other historical studies in that context, namely to test the instant investor reaction by performing an event study. A negative reaction to an extension of democratic rights and vice versa supports an anti-democratic attitude of investors.²⁴ Such results were found in Great Britain and partially in the Kingdom of Saxony. In these studies the main arguments were the potential costs arising from taxation and improved working conditions which might result from democratisation. This directly finds expression in the value of the

²¹ Which need to pay for the extra expenditures by higher taxation. A better protection of workers or related legislation can further increase the costs for firms.

²² After the victory of conservative authoritarian government on 1 November 2015, the Turkish stock market and the currency increased significantly in value. (FAZ 2 November 2015)

²³ Democratisation can have many dimensions, not just in the extent of the franchise, but also in the power of the parliament as such. The interdependence between these two has to be taken into account before making generalisations (Pittaluga et al. 2015).

²⁴ Whether ideologically driven or just for profit maximization.

affected firms. In addition, Turner and Zhan (2012) try to check the threat of revolution hypothesis as claimed by Acemoglu and Robinson (2000). Instead of firm stock prices this paper employs government bonds, which are advantageous for the following reasons:

A revolutionary regime is likely to reject financial demands against its predecessor, whose expenditures are very likely considered to be illegitimate.²⁵ Therefore, if the threat of revolution is taken seriously, government bonds are expected to benefit from a democratic reform. This would release some of the political pressure and accordingly increase the probability of the survival of the bond itself. Likewise, the revoking of reforms should have the reverse effect, since the risk of revolution is increased. While firms are likely to survive a system change, this does not hold for government bonds – issued by the old regime. Their prices consequently react more sensitively than firm stock prices, on which the previous studies are based. Theory and empirical findings imply a general anti-democratic sentiment of investors. A positive reaction of bond prices to the widening of democratic rights can be attributed to the expectation of a possible overthrow of the government. The same applies, of course vice versa, for the following dissolution of the Duma and the restriction of franchise.

Hypothesis 1: A positive reaction of bond prices to an extension of democratic rights is due to a possible threat of revolution.

The two events of unrest can be used to support this hypothesis, since they represent a direct threat of a revolution. If such a threat existed, the impact on prices should be negative.

By quantifying the market reaction this study further allows a statement on how far the government's decision to eventually leave the path of reform was backed by the elite. As elaborated above, bond prices reflect the possible risk of a revolution in the eyes of the investors. These embody the financial and societal elite not just of Russia, but of the whole of Europe.²⁶ Decisions of one autocratic ruler – or at best of a small circle of people – might in the end be irrational. If on the other hand investment strategies follow a largely rational schedule,

²⁵ Stephanie Collet (2013) gives an excellent example of sovereign bonds that are declared null in the wake of a regime change. She calls this type of debt “odious”, which underlines the immoral character of its usage. In fact, most of the government expenditures in Imperial Russia could be seen as somewhat oppressive since they were spent on the military and the repayment of older debts (Ischchanian 1913, p.210; Reichsbudget 1908).

²⁶ The structure of bond holders is depicted below. For a comprehensive view on foreign activity in Russian markets see, for instance, McKay (1970) or Ischchanian (1913).

the result reveals another view on the democratic prospects in Imperial Russia. It therefore contributes to the debate over how far indeed Imperial Russia was on a path towards a constitutional state. Could it possibly have remained a monarchy – and have followed the path of other western European states such as, for instance, Great Britain? This question has often been raised by historians, albeit without reaching a consensus (See, for instance, Walkin 1964, Fröhlich 1981 or Bradley 2002).²⁷ This controversy about the Revolution of 1905 is by no means a modern one. Count Witte saw its cause in the Tsar's political decisions and particularly in the war with Japan rather than in the system itself. In his eyes, the unrest resulted from the Tsars "...wavering and not from Russia's desire for revolution" (Frankel 2007, p. 57).

In sharp contrast, Soviet historians like Leo Trotsky detected immanent structural problems in the political system itself: "The monarchy loses its capacity for any kind of creative initiative; it defends itself, it strikes back, it retreats, its activities acquire the automatism of reflexes [...] His nearest ancestors [...] passed on to Nicholas a chaotic empire already carrying the matured revolution in its womb. If he had any choice left, it was only between different roads to ruin." (Trotsky 1932, p.98). Unsurprisingly, he considered revolution to have originated in the system itself, and thus inevitable. The above hypothesis in a specific Russian context can thus be reformulated as follows:

Hypothesis 2: If investors see a viable democratic prospect for Imperial Russia, bond prices are expected to react negatively to an extension of democratic rights.

At first glance this seems contradictory. However, the argument is based on the assumption that not just the short-run valuation of democratic reforms is considered,²⁸ but the risk of a revolution in the long run. Since a negative reaction to an extension of democratic rights would imply that only the unfavourable consequences of democracy play a role for the investors. In such a case they must estimate the chance of a revolution to be quite small. That in turn would express their confidence in the stability of a political system which has just begun to gradually change its foundations.²⁹

²⁷ In the same context, recent political developments in Russia have also been analysed (see Hahn 2004 or Hassner 2008).

²⁸ Which should be – as far as the literature is considered – rather negative.

²⁹ Needless to say, such an assessment – from a present-day perspective – would have been a fatal misjudgement.

Moreover, a hugely popular historical narrative is re-examined. The mutiny on the battleship Potemkin has been a central motive in the history of revolution – not only in the Soviet Union. At a camp in nearby Odessa, abominable food rations and a very low morale led to increasing discontent among the sailors. Severe sanctions by the command eventually provoked a mutiny. Though the revolt failed to spread to other ships or cities, it remained hugely popular among the public.³⁰ Nevertheless, the importance of the historical campaign remains questionable (Bennett 1959), which is why it is has been added to the event study. Thereby one can – *en passant* – probably substantiate the argument against the actual significance of that incident.

War Effect on the Stock Market

Generally, historical stock markets reflect political events in large measure. The majority of the literature focusses on elections (see, for instance, Bechtel 2009; Bernhard and Leblang 2006, chapters 3 and 4; Herron 2000; Leblang and Mukherjee 2004, 2005; Snowberg, Wolfers, and Zitzewitz 2006). Any altering of the political structure as, for instance, a change in franchise has been evaluated to lesser extent (Lehmann-Hasemeyer et al. 2014; Turner and Zhan 2012). Market reaction to wars and to related events has been discussed at length in the literature. Wars usually provide many instances which can be assessed by event studies. Since the outcome of single encounters is in general a surprise for the public, it is reasonable to make use of the immediate investors' reactions – manifested in stock market prices. The empirical literature in this field focusses mainly on two conflicts: World War II and the American Civil War. In both cases, however, results are not totally unambiguous. Frey and Kucher (2000) find distinct effects using the sovereign bonds of different countries on the Swiss stock exchange.³¹ Brown and Burdekin (2002) employ a similar approach with prices on the London Stock Exchange. They focus on a particular German bond financing the reparation payments from World War I, which Hitler refused to pay back. Its price is found to move in the opposite direction to the progress of the German advances in Europe.

Oosterlinck (2003) uses the information from the spread between Vichy state bonds – issued by the French regime collaborating with the German occupiers – and French *Rentes*, which stem from the third French republic. Changes in the spread are assumed to reflect the prospect

³⁰ Its mainstream fame arose mainly from the Film by Sergey Einstein in 1925. There is a vast literature on the culture impact: for instance, Rosentreter (2011).

³¹ An exception is the final capitulation of the Wehrmacht. It is argued that the German defeat – obviously unavoidable – had already been priced by market participants.

of the respective regime surviving the war.³² In Oosterlinck's study investors react more sensitively to political rather than to military events.

The second conflict that has been frequently investigated is the American Civil War. Related events also found their expression in financial market prices (McCandless 1996). However, the impact was not always in accordance with the historical assessment. Willard et al. (1996) fail to link all the battles that are generally considered important with significant structural breaks in the exchange rate of the greenback—a currency issued by the Union to overcome wartime financial restrictions. Based on the same approach, another study employs the prices of confederate cotton bonds traded in London and draws similar results (Brown and Burdekin 2000). The historical assessment of the impact is apparently not always in line with the assessment of contemporary observers.

Notwithstanding the ambiguity in the literature, Russian bonds are expected to have been impacted by war events. First, Russia was already burdened by a huge debt prior to the start of the conflict with Japan. Also, its strategic position in the Far East was as disadvantageous as its fiscal condition. The huge cost of such a remote engagement as this eminently enhances the risk of failure. All the major battles in the war turned out to be disastrous for Russia, as previously described. This rare case allows us to formulate clear-cut expectations of the reaction of Russian bond prices, which are assumed to have been negative in general. An exception is the signing of the Treaty of Portsmouth, which was quite advantageous for Russia and should, accordingly, have been perceived positively.

Hypothesis 3: Russian government bonds reacted (negatively) to the war events of the Russo-Japanese war.

The Russo-Japanese conflict is particularly interesting for assessing how wars affect financial markets. It was not only of large political impact, but also sketched out modern warfare in great measure (Kowner 2007). Though geographically limited, it was widely recognised as modern communication swiftly spread the news all around the globe, which is another characteristic of most conflicts. Nevertheless, the war events have to be looked at with caution for two reasons.

³² In general, the two security types are nearly identical, except for the different issuing regime. Any spread therefore only reflects the risk of regime failure.

The first is the sheer size of the Russian Empire. News from a remote battlefield would probably have taken some time to reach the European part of Russia.³³ Furthermore, the Russian press was characterised by purely patriotic rather than objective reporting and freedom of press was not yet in place (Grüner 2007). It remains questionable whether the severity of certain defeats of the Russian army was displayed in full.³⁴ Since German newspapers were hardly suspicious of being pro-Russian, the comparison between price reactions at the Saint Petersburg and the Berlin stock exchange throws light on this issue.

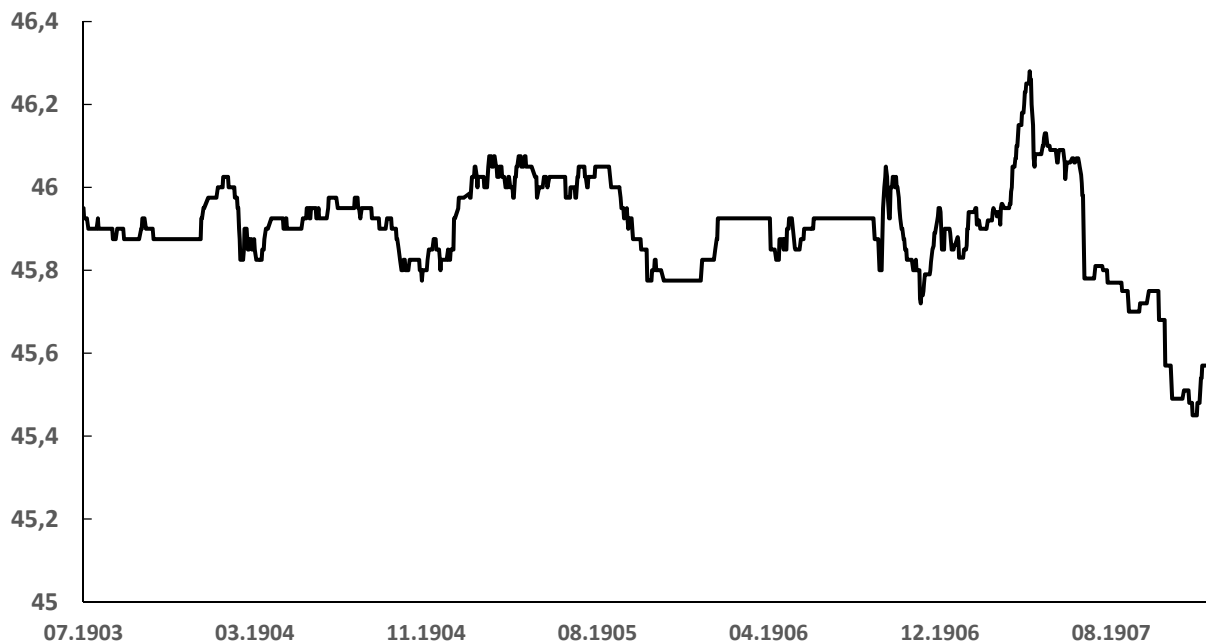
Investment in Russian Government Bonds

Russian state borrowing has a long-reaching tradition and was crucial in the modern history of the country. As the state played a much larger role in the economic activity than elsewhere, it tried to offset its need for capital by extensively floating bond issues. As a consequence the government bond market preceded that of private securities and also remained greater in size until the end of the Empire (Papp 2001, p.32ff.). The price development of bonds is especially interesting to analyse, since these are assumed to react more sensitively than firm stock prices. The war was limited to a certain region and did not affect the economy on a total scale. In line with that the Rouble-Mark exchange rate remained relatively constant during the whole period – displayed in Figure 2. Therefore, a sensitive measure like government bond prices is well-suited to establish any effects.

³³ Only one direct telegraph line to Russian mainland existed, alongside the Trans-Siberian Railway.

³⁴ Since the outcome of a battle probably leaked over a longer period, a sufficiently large event window becomes necessary. See the method section below.

Figure 2: Rouble-Mark exchange rate



Source: *Torgovo-Promyshlennaya Gazeta* (Newspaper of Trade and Industry).

Initially the financial resources raised by bond issuing were used mainly for warfare and military expenses, to a small extent also for railroad construction (Ukhov 2003, p.4ff.). In the late 19th century the main purpose was altered to support Russia's industrialisation and its economic modernisation attempts. Both of these were largely organised and financed by the state. Moreover, compared to other European states, capitalism and a private financial system were far less developed, so that capital demand could hardly be satisfied on the domestic market. As a consequence, several new bonds were issued under Alexander III. Whereas hitherto the Russian government had used banks as an intermediary, it then began to issue directly to foreign markets of its own accord. Also, Gold bonds were introduced as a universal standard, as these could be traded more easily between different countries. Coupon and principal payments were either made in paper Roubles or in gold coins (Ukhov 2003, p.16ff.). While only slightly successful at the beginning, Russia gained large access to international financial markets after the turn of the century. Consequently, nearly half of all Russian government bonds were held by foreign investors in 1913 (Ukhov 2003, p.35).³⁵ The German Empire played a vital role among the external capital sources, investing approximately 15% of

³⁵ For all Russian companies, this share was 33.5% (Ukhov 2003, 35).

all German foreign capital in Russia (Nötzold 1975, p.241). Hence, the use of Berlin as a reference market is particularly suitable.³⁶

In the considered period government bonds accounted for a large share of the Russian capital market (Sidorov 1975, p.253). They were regarded as an attractive investment, not least due to the low level of trust in private enterprises and the dominant role of the state in business activities (Papp 2001, p.17f.).

The stock exchange in Saint Petersburg has not been studied extensively in terms of efficiency. Though founded approximately at the same time as the city itself, it developed relatively late and first began to play a substantial role for the Russian economy in the late 19th century (Borodkin et al. 2006, p.4f.). That development took place despite an unfavourable economic environment. The Russian industry was homogeneous in structure and based on only a few sectors. Also, a legislation which impeded the creation of firms inhibited a prosperous economic development in general (Owen 1995, p.16ff.). In addition, the establishment of the so-called security department at the Saint Petersburg Stock Exchange in 1900 is usually seen as hindering the development of a free market, since it imposed strict controls on trading (Papp 2001, p.8). On the other hand, the Saint Petersburg Stock Exchange did indeed react to external events and, what is more, to political ones (Borodkin et al. 2006).³⁷ Particularly after 1900 it appeared to be, in many aspects, a largely developed market (Papp 2001, p. 324f.).

The Berlin Stock Exchange is a clearer case. It performed well even when measured against modern standards. Berlin displayed a high level of information efficiency (Gelman and Burhop 2008), low trading costs (Gehrig and Fohlin 2006) and low costs of IPOs, indicating its efficiency in underwriting new issues (Lehmann 2014). Furthermore, it was well integrated with other European markets, since the prices of internationally traded securities developed almost equally (Baltzer 2006). All in all, Berlin seems to be an appropriate benchmark market for assessing the performance of the Saint Petersburg Stock Exchange.

As it turns out prices at Berlin and Saint Petersburg moved largely in an equal way and – demonstrated in the data section – both bond price series are integrated. The difference in investors' reaction to specific events can thus expose the varying attitudes: the validity of the

³⁶ Several Russian governments bonds as well as railroad companies were traded in Berlin. They were listed in the official stock list or in the stock almanac *Handbuch der Deutschen Aktiengesellschaften* (1914). France and Belgium were also of great importance for Russian firms and bonds.

³⁷ According to Borodkin et al. (2006), these political events mattered a lot more for prices than the fundamental values of a security.

above formulated hypotheses might very well differ between the two markets due to the societal and political background. This applies to political events as well as war events, where a nationalist view could create some sort of home bias for Russian government bonds. A more anti-democratic attitude of the Russian elite would also condense in the returns during political events.³⁸ Admittedly these interpretations remain speculative: lack of efficiency cannot be completely ruled out—a different structure of investors could cause such an effect as well. Particularly in the case of war events, the available information might be another source of bias.³⁹ Nevertheless, the following hypothesis is tested:

Hypothesis 4: Possible differences in bond returns at the Saint Petersburg and the Berlin stock exchanges are due to differences in investors' attitude. Hypotheses 1 and 2 might not be answered consistently in this case.

Method

The impact at the stock exchange are analysed by applying standard event study methodology on Russian government bonds.⁴⁰ Figure 2 visualises the approach. In an estimation period $[T_{-1}, T_1]$, which is unaffected by the event – the estimation window – the parameters later used to determine the expected (normal) returns are calculated. The event under consideration occurs at T_0 and can in theory affect the stock market during the event window $[T_1, T_2]$, which can lie on either side of T_0 . This is due to the fact that information might leak before the actual event, which is typically relevant for earnings announcement or the like. There is no general consensus on the exact length of the estimation period. Usually, it is set between one and six months for daily prices.⁴¹ As prices in the considered period are overall unstable, a relatively short estimation window of 60 days is used in this study.

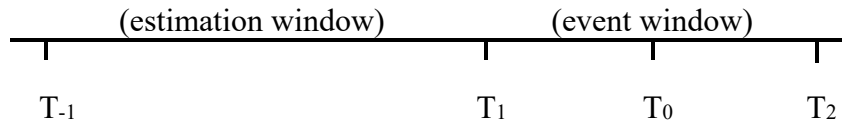
³⁸ Historical research often claims a pervasion of the whole Russian society by autocratic attitudes and ideals (see Bradley 2002).

³⁹ This could be due to probably favourable war reporting in Russian newspapers, as described above. Information on political events should have been accessible even more easily for Russian investors, as they were located nearby: the Winter Palace, for instance, where the event on bloody Sunday took place, is well within sight of the Saint Petersburg Stock Exchange.

⁴⁰ For an overview of this method see MacKinlay (1997).

⁴¹ For an overview see, for instance, Bessembinder et al. (2009).

Figure 3: Estimation and event window



Source: MacKinlay (1997).

The central element of this method is the estimation of the expected return. Subtracted from the actual return, the resulting abnormal returns reflect the impact of the event itself. Here, the constant mean return model is employed. Based on the period-t returns of security i, the model is as follows:

$$E(R_{it}) = \mu_i + \zeta_{it} \quad \text{With } E(\zeta_{it}) = 0 \text{ and } Var(\zeta_{it}) = \sigma_{\varepsilon_i}^2 \quad (1)$$

Though much simpler than the often used market model, this approach yields results which are similar and as equally powerful as more sophisticated ones (Brown and Warner, 1980; 1985). The expected return is simply the mean return of the previous period. Afterwards, abnormal returns in the event window are established. Specifically, these are calculated for security i at time t as: $AR_{it} = R_{it} - E(R_{it})$, where R_{it} is a stock's realized return for time t and where $E(R_{it})$ is its expected return in the absence of the event, as calculated above. Then the average cumulated abnormal return (ACAR) from $t=T_1$ to $t=T_2$ is

$$ACAR = \frac{1}{N} \sum_{i=1}^N \sum_{t=T_1}^{T_2} AR_{it} \quad (2),$$

where N is the number of securities in the sample during each event. To test the significance of the ACARs, their variance is estimated by using cross-sectional variance across the cumulative abnormal returns of the various bonds. This cross-sectional approach takes account of an increase in event period variance (Campbell et al. 1997, p.168; Turner and Zhan 2012, p.620). Using the cross-sectional approach to form an estimator of the variance gives:

$$\text{Var}(ACAR) = \frac{1}{N^2} \sum_{i=1}^N (CAR_i - ACAR)^2 \quad (3),$$

The test statistic is then calculated as: $t = \frac{ACAR}{\sqrt{\text{Var}(ACAR)}}$, which is asymptotically standard normal.

Data

For this study the daily prices of specific Russian government bonds were hand-collected from two major sources. The Saint Petersburg prices stem from the daily newspaper *Torgovo-Promyshlennaya Gazeta*,⁴² whereas Berlin price sheets can be found in *Berliner Börsenzeitung*, which – just like the *Gazeta* – includes the daily official price sheet of the stock exchange.⁴³ At both markets, prices were listed as a percentage of the nominal value, which is denominated in Roubles. The event dates were re-checked in the daily newspapers *Frankfurter Zeitung* and *Berliner Börsenzeitung*.⁴⁴

Though various municipal bonds were issued in Russia, most were traded only sporadically and were rather seen as a long-term investment for institutional investors (Papp 2001, p.39). Consequently, only central governments are qualified for this analysis. Still, the low frequency of trading remains a major drawback for the data quality. Finally, only those types of securities which were traded on a regular basis on both markets enter the analysis: The 4% State Bond – following the Russian notation also referred to as *Renta* – and the 3^{1/8}% Convertible Obligation.⁴⁵ For both of these securities, there was at best one week without a price notation.

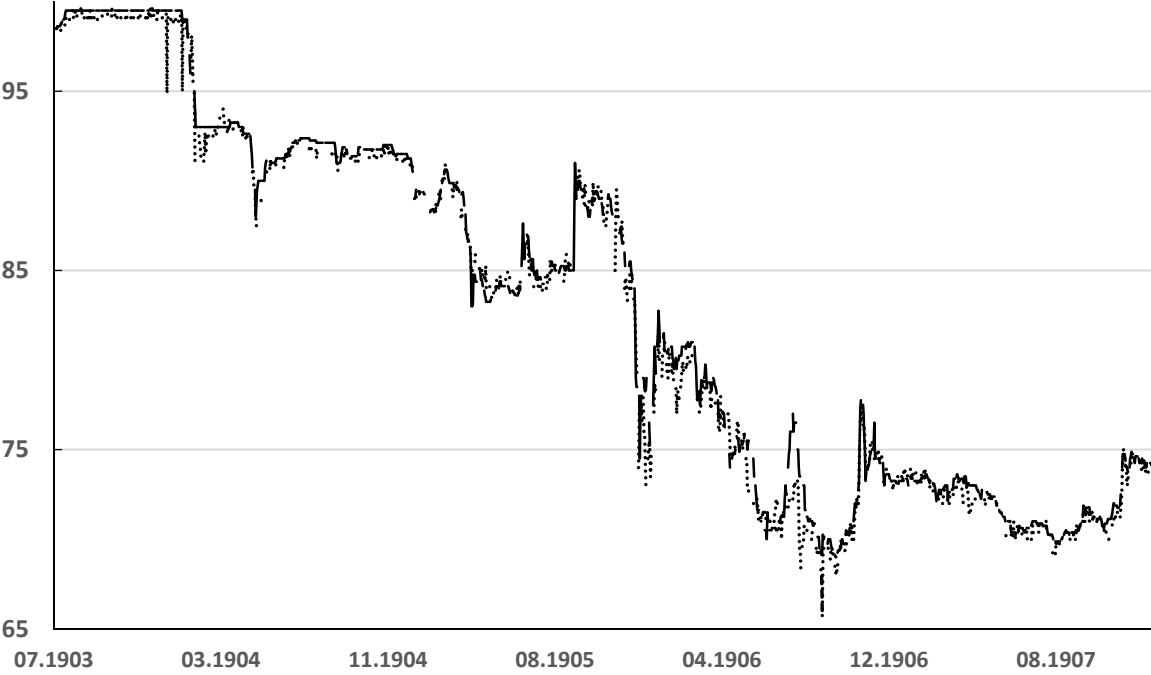
⁴² Торгово-промышленная газета, the literal translation is Commerce and Industry Newspaper. Further, missing prices were counterchecked in *Birzeveye Vedomosti* (Stock Exchange Gazette).

⁴³ Available at the *Staatsbibliothek zu Berlin*. Also online: <http://zefys.staatsbibliothek-berlin.de/list/title/zdb/2436020X/> (07.12.2015)

⁴⁴ For most events, the news were announced on the event day itself, in some cases a few days delayed. Still, a large event window should capture the possible effect. In addition, a detailed review of Russian newspapers would be preferable. This task unfortunately was beyond the author's tight time schedule and poor language skills.

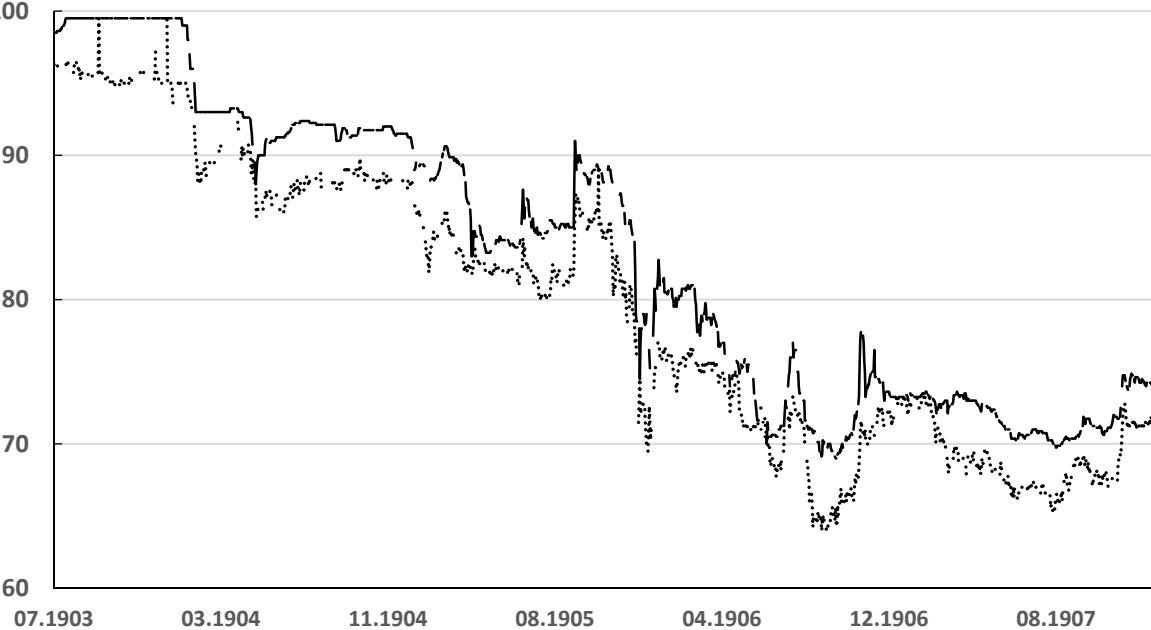
⁴⁵ *Государственная рента* and *конвертируемая облигация* respectively.

Figure 4: State bonds



The solid line displays the development of prices at the Saint Petersburg Stock Exchange. The dashed line reflects the Berlin stock exchange.

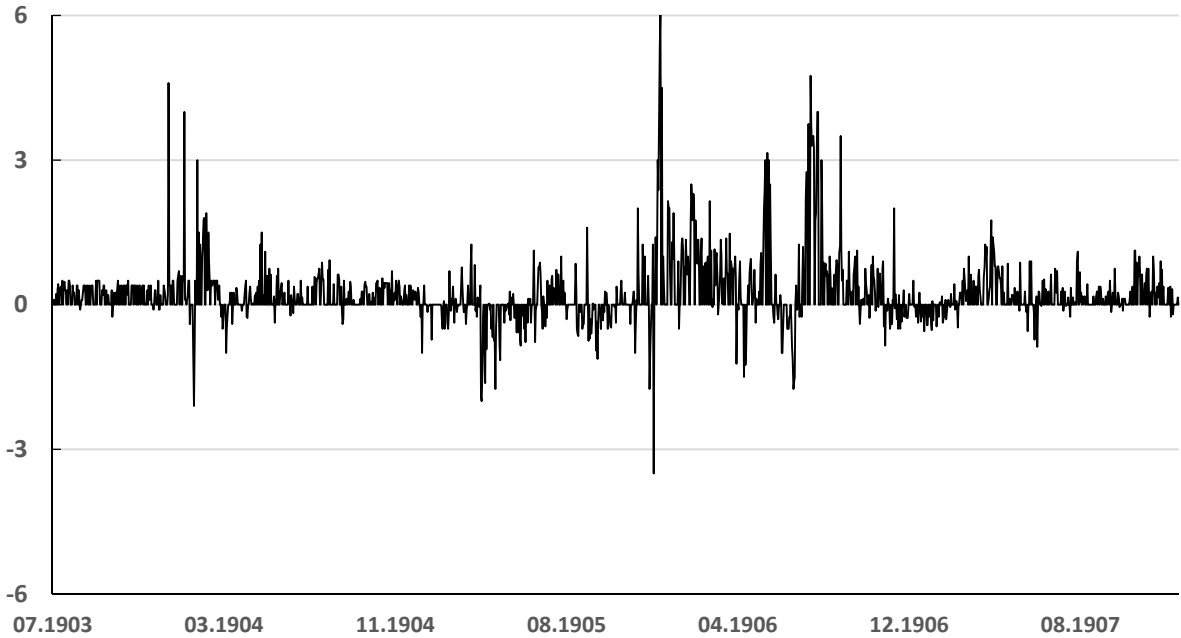
Figure 5: Convertible obligations



The solid line displays the development of prices at the Saint Petersburg Stock Exchange. The dashed line reflects the Berlin stock exchange.

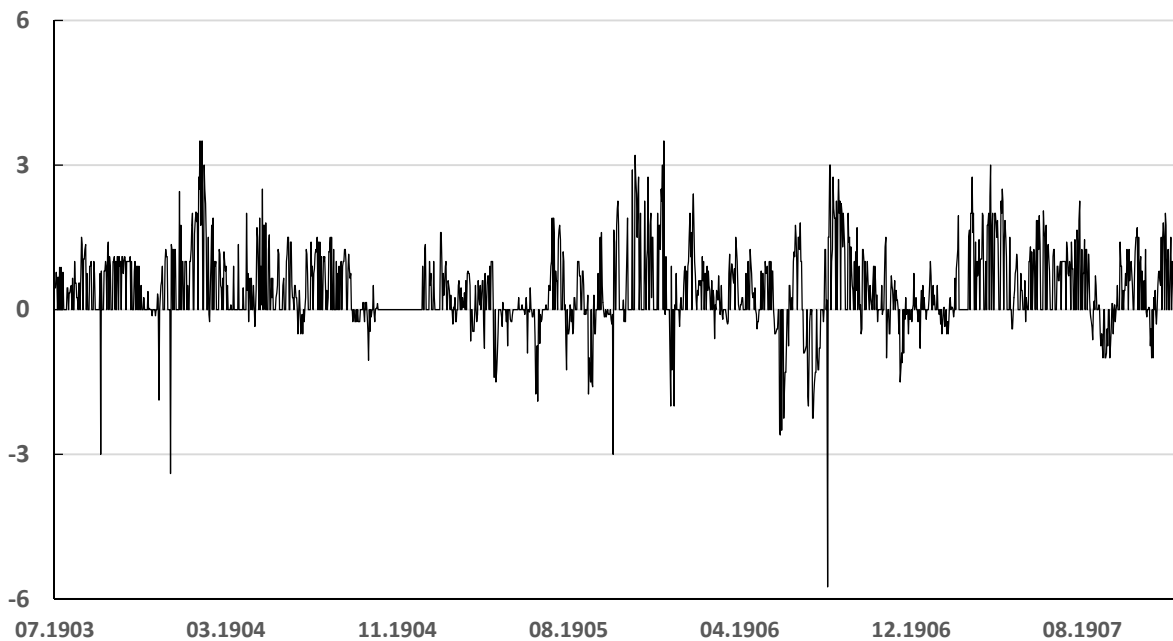
Figures 4 and 5 show the two different types of bonds used in this study. In both graphs the solid line shows the prices on the Saint Petersburg Stock Exchange, whereas the dashed line represents Berlin. An overall downward trend in the development of bond prices is apparent. However, there is large variation in prices, especially at the time of the revolutionary events. To link these with the occurring changes in prices, the central idea of the technique is applied here.

Figure 6: Difference in prices of State Bonds



The graph shows the difference in prices of 4% State Bonds between the Saint Petersburg Stock Exchange and the Berlin stock exchange.

Figure 7: Difference in prices of Convertible Obligations



The graph shows the difference in prices of 3 1/8% Convertible Obligations between the Saint Petersburg Stock Exchange and the Berlin stock exchange.

Interesting, especially for comparing the efficiency of both markets, is the spread between the two markets, which is shown in figures 6 and 7 respectively. There seems to be no irregular pattern, except probably in 1906, when the variance of state bond prices appears to be somewhat greater. An augmented Dickey-Fuller test, however, shows that the two differences of the series are stationary. Moreover, applying the Engle-Granger two-step method reveals that price series of both *Renta* and Obligations are integrated with its counterpart at the other market.⁴⁶ Table 4 displays the corresponding descriptive statistics.

⁴⁶ In fact, the two tests are to a large extent equivalent.

Table 4: Descriptive statistics for *Renta*, Obligations and the differences

	Renta Petersburg	Renta Berlin	Spread Renta	Obligations Petersburg	Obligations Berlin	Spread Obligations
Mean	83.17	82.81	0.37	80.37	79.71	0.58
Median	84.13	84.10	0.28	81.75	81.20	0.65
Std. Dev.	10.03	10.11	0.83	9.87	9.85	0.95
Minimum	69.0	65.8	-3.5	63.0	64.0	-5.8
Maximum	99.5	99.8	6.1	96.9	99.5	3.5
Skewness	0.15	0.15	1.86	0.17	0.14	-0.59
Kurtosis	1.61	1.59	11.97	1.65	1.66	5.83

Source: Own calculation.

For both security types, mean as well as median prices are slightly higher in Saint Petersburg. There is some variation in both spread series, though. Also, the spread of the Convertible Obligations possesses a negative skew in contrast to the difference in *Renta* prices, correspondingly the Minimum and Maximum values appear.⁴⁷

Results

Tables 5 and 6 show the event study results for Saint Petersburg and Berlin respectively. In contrast to the descriptive statistics and the integration test results, the two markets do not always behave consistently. In nearly all cases, however, the size and the sign of the abnormal return is the same, only the corresponding p-values differ. Considering only the war events, this difference is negligible, too. Generally speaking, the Berlin stock market and the investors there seemed to react slightly more sensitively to political events and adjusted their portfolio accordingly. As stated in the previous chapter, one reason for this may be the differing availability of information. Reporting in Russian newspapers was more favourable towards the Tsarist government than elsewhere, especially in times of war.⁴⁸ A free press had not yet been established and, particularly in the Russo-Japanese war, the press organs of all political colours wrote patriotically and emphasized Russian superiority over the Japanese race and culture. Likewise, the war reporting was one-sided and naively ignored the strength of the Japanese military (Grüner 2007, p.188ff.). This is not in line with the results presented in Table 5 as the

⁴⁷ Though likely to occur in this case, it is not necessarily the consequence of the sign of the skewness. Also, a positive versus a negative skewness is not necessarily reflected in the relation of Mean to Median, as in this case.

⁴⁸ To figure out how far newspaper coverage diverged in different countries would surely help to identify early market integration in general. As this requires intensive historical research, it is beyond the scope of this paper.

supposed differences in reporting did not find expression in different price reactions. The assessment of the war events was to a large extent equal in Berlin and Saint Petersburg. Probably, the Russian press at that time did report more freely than is assumed in literature.

Following Hypothesis 4, there was no significant difference in attitude between investors in the East and West. In a way, investment during the early 20th century was already globalised. Accordingly, the spread between the two markets is small for both bond types. There was no home bias of Russian investors and even in war times patriotic feeling was less important than the pursuit of profit. The involved persons or institutions might actually have been the same at both markets, causing a similar result. There is evidence of the importance of the role of foreign investors at the Saint Petersburg Stock Exchange, the exact ownership is difficult to determine, however (Papp 2001, p. 433ff).⁴⁹

⁴⁹ The majority of shares were bearer and not name shares. Furthermore, many Russian capital owners deposited their shares abroad, which skews even the broad statistic of origin of capital.

Table 5: Results of the event study for war events

Date	Event	(-3; +3)		(-7; +7)		(0; +7)		(-7; 0)	
		ACAR	p-value	ACAR	p-value	ACAR	p-value	ACAR	p-value
Petersburg									
9 Feb 04	First Japanese attack	-0.0358	0.010	-0.0438	0.007	-0.0183	0.038	-0.0137	0.064
30 Apr 04	Battle of Yalu River	-0.0042	0.364	-0.0165	0.046	-0.0172	0.042	0.0006	0.880
10 Aug 04	Battle of the Yellow Sea	-0.0011	0.788	-0.0029	0.508	-0.0013	0.748	-0.0013	0.748
2 Jan 05	Capitulation of Port Arthur	-0.0151	0.054	-0.0167	0.044	-0.0025	0.557	-0.0017	0.692
10 Mar 05	Mukden Battle	-0.0025	0.559	-0.0107	0.098	-0.0079	0.162	-0.0034	0.455
27 May 05	Battle of Tsushima	0.0029	0.509	0.0050	0.306	0.0021	0.622	0.0021	0.616
27 Jun 05	Mutiny on Potemkin	-0.0028	0.528	-0.0091	0.130	-0.0013	0.757	-0.0056	0.261
5 Sep 05	Treaty of Portsmouth	0.0150	0.054	0.0543	0.004	0.0038	0.402	0.0475	0.006
Berlin									
9 Feb 04	First Japanese attack	-0.0480	0.009	-0.0616	0.006	-0.0099	0.169	-0.0255	0.032
30 Apr 04	Battle of Yalu River	-0.0127	0.114	-0.0326	0.020	-0.0343	0.018	-0.0008	0.887
10 Aug 04	Battle of the Yellow Sea	-0.0013	0.813	-0.0064	0.304	0.0037	0.517	-0.0112	0.140
2 Jan 05	Capitulation of Port Arthur	-0.0143	0.093	-0.0186	0.058	-0.0136	0.101	-0.0010	0.846
10 Mar 05	Mukden Battle	-0.0070	0.273	-0.0134	0.103	-0.0093	0.186	-0.0025	0.645
27 May 05	Battle of Tsushima	-0.0005	0.926	0.0068	0.286	0.0019	0.727	0.0043	0.459
27 Jun 05	Mutiny on Potemkin	-0.0035	0.530	-0.0229	0.039	-0.0121	0.123	-0.0105	0.153
5 Sep 05	Treaty of Portsmouth	0.0196	0.052	0.0498	0.009	-0.0111	0.141	0.0597	0.006

The upper part of the table shows the results at the Saint Petersburg Stock Exchange, the lower part refers to Berlin. Bolded ACAR-values are significant at the 10% level.

Table 6: Results of the event study for political events

Date	Event	(-3; +3)		(-7; +7)		(0; +7)		(-7; 0)	
		ACAR	p-value	ACAR	p-value	ACAR	p-value	ACAR	p-value
Petersburg									
22 Jan 05	Bloody Sunday	0.0021	0.616	-0.0088	0.137	-0.0024	0.584	-0.0069	0.200
30 Oct 05	October manifesto	-0.0035	0.442	-0.0219	0.027	-0.0121	0.080	-0.0091	0.130
5 Dec 05	General strike	-0.0053	0.283	-0.0688	0.003	-0.0081	0.155	-0.0583	0.004
23 Apr 06	First constitution	0.0032	0.478	-0.0021	0.627	0.0051	0.295	-0.0112	0.092
10 May 06	Opening first Duma	0.0078	0.167	0.0018	0.672	0.0063	0.224	-0.0056	0.263
21 Jul 06	Dissolution first Duma	0.0160	0.048	0.0398	0.008	-0.0010	0.811	0.0404	0.008
20 Feb 07	Opening Second Duma	-0.0045	0.340	-0.0040	0.384	-0.0020	0.639	-0.0020	0.640
2 Jun 07	Dissolution second Duma	-0.0004	0.924	-0.0026	0.550	-0.0001	0.975	-0.0019	0.660
Berlin									
22 Jan 05	Bloody Sunday	-0.0245	0.035	-0.0086	0.207	0.0010	0.847	-0.0095	0.181
30 Oct 05	October manifesto	-0.0012	0.829	-0.0419	0.012	-0.0129	0.111	-0.0489	0.009
5 Dec 05	General strike	-0.0371	0.016	-0.0740	0.004	-0.0024	0.663	-0.1034	0.002
23 Apr 06	First constitution	-0.0126	0.115	-0.0059	0.337	0.0113	0.137	-0.0132	0.106
10 May 06	Opening first Duma	-0.0055	0.365	-0.0179	0.062	-0.0092	0.189	-0.0099	0.169
21 Jul 06	Dissolution first Duma	0.0184	0.059	0.0278	0.027	0.0116	0.131	0.0149	0.086
20 Feb 07	Opening Second Duma	-0.0163	0.074	-0.0160	0.076	-0.0063	0.309	-0.0077	0.243
2 Jun 07	Dissolution second Duma	-0.0033	0.550	-0.0084	0.217	-0.0137	0.100	0.0032	0.568

The upper part of the table shows the results at the Saint Petersburg Stock Exchange, the lower part refers to Berlin. Bolded ACAR-values are significant at the 10% level.

In all the event window specifications used, the symmetric two-week window produces the most significant abnormal returns. Obviously the effect needed some time to establish. In Table 6 the outcome appears to have been anticipated in advance and already priced in, as the effect took place the week before. This seems plausible for political, but not for war events. Here the outcome (of a battle) is rather stochastic for uninvolved persons such as investors. Exceptions are the outbreak of the war and the signing of the peace treaty, both of which were foreseeable.⁵⁰ Indeed, as Table 5 shows, only in these (quasi-political) cases does the pre-event window produce significant abnormal returns.

Where significant, the war events did play a role for investors in the supposed direction. While defeats were perceived negatively, the treaty of Portsmouth was welcomed in both Saint Petersburg and Berlin – in line with the common historical assessment, which considers the treaty as very favourable for the Russian Empire. Hypothesis 3 can be largely confirmed, substantiating previous research on the impact of wars on financial markets. Since not every battle that has been assessed as historically important resulted in a significant stock market reaction, this result is mostly consistent with the findings of Willard et al. (1996) and Oosterlinck (2003).

Not significant at all is the mutiny on the battleship Potemkin. It won its fame not until later years, according to historical research mostly due to Soviet propaganda and the well-known movie by Sergey Eisenstein.

As mentioned before, and as is visible in Table 6, for political events the Berlin stock exchange played the much bigger role. The two cases of large public unrest – Bloody Sunday and the general strike in December 1905 – are accompanied by a negative price reaction. The former, though, is well-recognised in public, though to a smaller extent. The harmful consequences of the general strike for the whole economy obviously weighted heavier for investors than just a political uprising as such – no matter how violent. In the investors' view a revolution was not imminent as they rather feared the costly consequences of a standstill of the economy. Altogether, this is a first indication of the validity of the first hypothesis.

When the October manifesto was released in 1905, the response on the stock market was only small in magnitude. The sole announcement of reforms was probably neither credible nor

⁵⁰ While the former was a result of growing tensions, which have been widely reported. The course of the peace negotiations was also published in the press. The Russian delegation, in particular, had close relations to journalists and even used them to influence the (American) public (Westwood 1986, p.158).

already expected by the public: After all, the continuing upheaval most obviously required at least some release of political pressure. The other political events follow a consistent pattern with respect to hypotheses 1 and 2. Except for the new constitution coming into effect all the events that imply a shift towards more democracy induced negative abnormal returns. By contrast, when the newly established parliament was dissolved in July 1906, the reaction of investors was quite positive. The first attempt to implement parliamentarism was defeated after only a short period, though, as it turns out, in the best interest of capital owners. When the parliament was dissolved for the second time a year later, no significant abnormal price movement materialised. Just as before, the Duma had failed to cooperate with the government successfully. As Count Witte noted: “The dissension between the activity of the government and the activity of the Duma was obviously and permanently revealed. It was clear that it cannot go on like that” (Witte 1923, p.519). The public and investors most likely did anticipate the very same response by the Tsar as beforehand: once more, the parliament was dissolved. Accordingly, no abnormal price behaviour manifested itself when the decision was finally announced.

Considering the overall market reaction, the first two hypotheses can mostly be confirmed. Investors at both the Saint Petersburg and the Berlin stock exchange did not welcome democratic change. Despite – partially violent – uprisings they saw no threat of revolution that could enhance the risk of the failure of government bonds; In line with recent literature, this study fails to find a “democratic advantage” of Russian government bonds. Following hypothesis 2, this in turn implies that capital owners saw the chance that Russia would gradually develop towards a more democratic state in the long run. As explained above, this is inferred from an initial anti-democratic attitude. The positive perception of events related to democratisation in the short run requires the expectation of a stable, non-revolutionary development in the long run. Gradual parliamentarisation – which had happened recently in most western European states – must have been considered to be a quite realistic option for the Russian Empire.

Conclusion

Political as well as war events related to the Revolution of 1905 and the Russo-Japanese war mattered for investors throughout Europe. By using event study technique, this paper reveals

that the prices of Russian government bonds at both the Saint Petersburg and the Berlin stock exchange reacted sensitively and pretty much in an equal manner.

The reaction to political events implies a general anti-democratic attitude of investors. Likewise, a possible threat of revolution is not reflected in the price development. Synonymous with this result, a gradual democratic development in the long run appeared realistic for contemporary capital owners – notwithstanding the fact that the 1905 Revolution effectively served as a blueprint for the Bolshevik revolution a decade later.

Similar to nowadays, the involvement in military conflicts repelled investors, especially when the chances for victory were uncertain. Furthermore, this paper substantiates the findings of other authors on the importance of war events: Not all dates that have been considered as greatly important – like the October manifesto or the battle of Tsushima – were in retrospect recognised as such in the capital market.

Finally, both markets reacted largely in an equal way, particularly to war events. There was no home bias of Russian investors during war times. Moreover, bond prices do not reflect a significant difference in investors' attitude towards democratisation in the East and West. In this respect a globalised political stock market was well in place in 'backward' Imperial Russia in the early 20th century.

References

- Acemoglu, D., & Robinson, J. A. (2000). Why did the West extend the franchise? Democracy, inequality, and growth in historical perspective. *Quarterly Journal of Economics*, 1167–1199.
- Aennaert, J., Buelens, F., Cuyvers, L., De Ceuster, M., Deloof, M., & De Schepper, A. (2011). Are blue chip stock market indices good proxies for all-shares market indices? The case of the Brussels Stock Exchange 1833–2005. *Financial History Review*, 18(03), 277–308.
- Aidt, T. S., Dutta, J., & Loukoianova, E. (2006). Democracy comes to Europe: franchise extension and fiscal outcomes 1830–1938. *European Economic Review*, 50(2), 249–283.
- Aidt, T. S., & Jensen, P. S. (2009). Tax structure, size of government, and the extension of the voting franchise in Western Europe, 1860–1938. *International Tax and Public Finance*, 16(3), 362–394.
- Aidt, T. S., & Franck, R. (2015). Democratization under the threat of revolution: evidence from the great reform act of 1832. *Econometrica*, 83(2), 505–547.
- Archer, C. C., Biglaiser, G., & DeRouen, K. (2007). Sovereign bonds and the “democratic advantage”: Does regime type affect credit rating agency ratings in the developing world?. *International Organization*, 61(02), 341–365.
- Ascher, A. (2004): *The Revolution of 1905*. Stanford University Press: Stanford
- Baltzer, M. (2006). Cross-listed stocks as an information vehicle of speculation: evidence from European cross-listings in the early 1870s. *European Review of Economic History*, 10(3), 301–327.
- Beaulieu, E., Cox, G. W., & Saiegh, S. (2012). Sovereign debt and regime type: Reconsidering the democratic advantage. *International Organization*, 66(04), 709–738.
- Bechtel, M. M. (2009). The political sources of systematic investment risk: Lessons from a consensus democracy. *The Journal of Politics*, 71(02), 661–677.
- Bennett, G. (1959). The “Potemkin” Mutiny. *The RUSI Journal*, 104(616), 415–422.
- Bernhard, W., & Leblang, D. (2006). *Democratic processes and financial markets: Pricing politics*. Cambridge University Press: Cambridge
- Bessembinder, H., Kahle, K. M., Maxwell, W. F., & Xu, D. (2009). Measuring abnormal bond performance. *Review of Financial Studies*, 22(10), 4219–4258.
- Borodkin, L., Konovalova, A., & Perelman, G. (2006). St. Petersburg Stock Exchange in the Time of Economic Depression, War and Revolution: Does Instability Matter? In: XIV International Economic History Congress, Helsinki.
- Bradley, J. (2002). Subjects into Citizens: Societies, Civil Society, and Autocracy in Tsarist Russia. *The American Historical Review*, 107(4), 1094–1123.

- Brown Jr, W. O., & Burdekin, R. C. (2002). German debt traded in London during the Second World War: a British perspective on Hitler. *Economica*, 69(276), 655–669.
- Brown, W. O., & Burdekin, R. C. (2000). Turning points in the US civil war: a British perspective. *The Journal of Economic History*, 60(01), 216–231.
- Brown, S. J., & Warner, J. B. (1980). Measuring security price performance. *Journal of financial economics*, 8(3), 205–258.
- Brown, S. J., & Warner, J. B. (1985). Using daily stock returns: The case of event studies. *Journal of financial economics*, 14(1), 3–31.
- Campbell, J., Lo, A. and MacKinlay, C. (1997). *The Econometrics of Financial Markets*. Princeton University Press, Princeton, NJ
- Collet, S. (2013). The financial penalty for “unfair” debt: the case of Cuban bonds at the time of independence. *European review of economic history*, 17(3), 364–387.
- Connaughton, R. M. (1988). *The War of the Rising Sun and Tumbling Bear: A Military History of the Russo-Japanese War, 1904-5*. Routledge: London
- Crisp, O. (1960). French Investment in Russian Joint–Stock Companies, 1894–1914. *Business History*, 2(2), 75–90.
- Dahlmann in Kreiner, J. (2005). *Der Russisch-Japanische Krieg (1904/05)*. V&R unipress GmbH.
- Frankel, J. (2007). The war and the fate of tsarist autocracy. In: Kowner, R. (Ed.). (2007). *The Impact of the Russo-Japanese War*. Routledge: London
- Frey, B. S., & Kucher, M. (2000). History as reflected in capital markets: the case of World War II. *The Journal of Economic History*, 60(02), 468–496.
- Fröhlich, K. (1981). *The Emergence of Russian Constitutionalism, 1900-1914. The relation between social mobilization and political group formation in pre-revolutionary Russia*, Den Haag.
- Galai, S. (2005). Kadet Domination of the First Duma and its limits. In: Smele, J., & Heywood, A. (2005). *The Russian Revolution of 1905: Centenary Perspectives (Vol. 9)*. Taylor & Francis: London
- Gehrig, T., & Fohlin, C. (2006). Trading costs in early securities markets: the case of the Berlin Stock Exchange 1880–1910. *Review of Finance*, 10(4), 587–612.
- Gelman, S., & Burhop, C. (2008). Taxation, regulation and the information efficiency of the Berlin stock exchange, 1892–1913. *European Review of Economic History*, 12(1), 39–66.
- Geyer, D. (1975). *Wirtschaft und Gesellschaft im vorrevolutionären Russland*. Kiepenheuer & Witsch: Köln

- Grüner, F. (2007). Der Russisch-Japanische Krieg in der zeitgenössischen presse Rußlands. In: Sprotte, M. H., Seifert, W., & Löwe, H. D. (2007). *Der Russisch-Japanische Krieg, 1904/05*. Otto Harrassowitz Verlag: Wiesbaden
- Hahn, G. M. (2004). Managed democracy? Building stealth authoritarianism in St. Petersburg. *Demokratizatsiya*, 12(2), 195–232.
- Handbuch der Deutschen Aktiengesellschaften (1914). Darmstadt: Hoppenstedt.
- Harcave, S. (1964): *First Blood. The Russian Revolution of 1905*. The Bodley Head: London
- Hassner, P. (2008). Russia's transition to autocracy. *Journal of Democracy*, 19(2), 5–15.
- Herron, M. C. (2000). Estimating the economic impact of political party competition in the 1992 British election. *American Journal of Political Science*, 326–337.
- Hoch, S. L. (1991). The Banking Crisis, Peasant Reform, and Economic Development in Russia, 1857-1861. *The American Historical Review*, 795–820.
- Hoch, S. L. (1994). On good numbers and bad: Malthus, population trends and peasant standard of living in late imperial Russia. *Slavic Review*, 41–75.
- Hoch, S. L. (2004). Did Russia's emancipated serfs really pay too much for too little land? Statistical anomalies and long-tailed distributions. *Slavic Review*, 247–274.
- Husted, T. A., & Kenny, L. W. (1997). The Effect of the Expansion of the Voting Franchise on the Size of Government. *Journal of Political Economy*, 54–82.
- Ischchanian, B. (1913). *Die ausländischen Elemente in der russischen Volkswirtschaft: Geschichte, Ausbreitung, Berufsgruppierung, Interessen und ökonomisch-kulturelle Bedeutung der Ausländer in Russland*. Siemenroth: Berlin
- Justman, M., & Gradstein, M. (1999). The industrial revolution, political transition, and the subsequent decline in inequality in 19th-century Britain. *Explorations in Economic History*, 36(2), 109–127.
- Kahan, A. (1989). *Russian economic history: the nineteenth century*. University of Chicago Press: Chicago
- Kholodilin, K., Ulbricht, D., & Wagner, G. (2014). Are the Economic Sanctions against Russia Effective? (No. 28). DIW Berlin, German Institute for Economic Research.
- Kowner, R. (2007). *The Impact of the Russo-Japanese War*. Routledge: London
- Leblang, D., & Mukherjee, B. (2004). Presidential elections and the stock market: Comparing Markov-switching and fractionally integrated GARCH models of volatility. *Political Analysis*, 12(3), 296–322.

- Leblang, D., & Mukherjee, B. (2005). Government partisanship, elections, and the stock market: examining American and British stock returns, 1930–2000. *American Journal of Political Science*, 49(4), 780–802.
- Lehmann, S. H. (2014). Taking firms to the stock market: IPOs and the importance of large banks in imperial Germany, 1896–1913. *The Economic History Review*, 67(1), 92–122.
- Lehmann-Hasemeyer, S., Hauber, P., & Opitz, A. (2014). The Political Stock Market in the German Kaiserreich—Do Markets Punish the Extension of the Suffrage to the Benefit of the Working Class? Evidence from Saxony. *The Journal of Economic History*, 74(04), 1140–1167.
- Li, Q., & Resnick, A. (2003). Reversal of fortunes: Democratic institutions and foreign direct investment inflows to developing countries. *International organization*, 57(01), 175–211.
- Lizzeri, A., & Persico, N. (2004). Why did the Elites Extend the Suffrage? Democracy and the Scope of Government, with an Application to Britain's "Age of Reform". *The Quarterly Journal of Economics*, 707-765.
- Löwe, H. D. (2007) a. *Rußland von der Mitte des 19. Jahrhunderts bis zum Beginn des Russisch-Japanischen Krieges*. In: Sprotte, M. H., Seifert, W., & Löwe, H. D. (2007). *Der Russisch-Japanische Krieg, 1904/05: Anbruch einer neuen Zeit?*. Otto Harrassowitz Verlag.
- Löwe, H. D. (2007) b. *Der Russisch-Japanische Krieg und die russische Innenpolitik*. In: Sprotte, M. H., Seifert, W., & Löwe, H. D. (2007). *Der Russisch-Japanische Krieg, 1904/05: Anbruch einer neuen Zeit?*. Otto Harrassowitz Verlag.
- Lott, J. R. (1999). How dramatically did women's suffrage change the size and scope of government?. *Journal of Political Economy*, 107(6 Part 1), 1163-1198.
- Mathur, A., & Singh, K. (2013). Foreign direct investment, corruption and democracy. *Applied Economics*, 45(8), 991–1002.
- McCandless, G. T. (1996). Money, expectations, and the US Civil War. *The American Economic Review*, 661–671.
- McKay, J. (1970). *Pioneers for Profit: Foreign Entrepreneurship and Russian Industrialization, 1885–1913*. University of Chicago Press: Chicago
- MacKinlay, C. (1997). Event Studies in Economics and Finance. *Journal of Economic Literature* 35, 13–39.
- Miller, B. R. (2013). *Rural Unrest During the First Russian Revolution: Kursk Province, 1905–1906*. Central European University Press.
- Morrison, B. (2011). Channeling the “Restless Spirit of Innovation”: Elite Concessions and Institutional Change in the British Reform Act of 1832. *World Politics*, 63(04), 678–710.

- Nötzold, J. (1975). Agrarfrag und Industrialisierung am Vorabend des Ersten Weltkrieges. In: Geyer, D. (1975). *Wirtschaft und Gesellschaft im vorrevolutionären Russland*. Kiepenheuer & Witsch: Köln
- Nish, I. (1985). *The Origins of the Russo-Japanese War*. Longman: London
- Nish, I. (2005). The Russo-Japanese War. Planning, Performance and Peace Making. In: Kreiner, J. (2005). *Der Russisch-Japanische Krieg (1904/05)*. V&R unipress: Göttingen
- Oneal, J. R. (1994). The affinity of foreign investors for authoritarian regimes. *Political Research Quarterly*, 47(3), 565–588.
- Oosterlinck, K. (2003). The bond market and the legitimacy of Vichy France. *Explorations in Economic History*, 40(3), 326–344.
- Owen, T. C. (1995). *Russian Corporate Capitalism from Peter the Great to Perestroika*. Oxford University Press: Oxford.
- Papp, R. G. (2001). *The Development of a Domestic Stock Market in St. Petersburg in Late Imperial Russia* (Doctoral dissertation, Columbia University).
- Pittaluga, G. B., Cama, G., & Seghezza, E. (2015). Democracy, extension of suffrage, and redistribution in nineteenth-century Europe. *European Review of Economic History*, 19(4), 317–335.
- Reichsbudget (1908). *Reichsbudget für das Jahr 1908*. Buchdruckerei der kaiserlichen Akademie der Wissenschaften: Sankt Petersburg
- Rosentreter, R. (2011). *Panzerkreuzer Potjomkin: das Schiff-der Aufstand-der Film*. Koch: Rostock
- Saiegh, S. M. (2005). Do countries have a “democratic advantage”? Political institutions, multilateral agencies, and sovereign borrowing. *Comparative Political Studies*, 38(4), 366–387.
- Schmidt, C. (2003). *Russische Geschichte 1547-1917*. Oldenbourg Verlag: München
- Sidorov, A. (1975). Zur Finanzlage Rußlands vor 1914: Staatshaushalt und Staatsschuld. In: Geyer, D. (1975). *Wirtschaft und Gesellschaft im vorrevolutionären Russland*. Kiepenheuer & Witsch: Köln
- Snowberg, E., Wolfers, J., & Zitzewitz, E. (2006). *Partisan impacts on the economy: evidence from prediction markets and close elections* (No. w12073). National Bureau of Economic Research.
- Trotsky, L. (1932). *The history of the Russian revolution*. The University of Michigan Press: Ann Arbor
- Turner, J. and Zhan, W. (2012). Property rights and competing for the affections of Demos: the impact of the 1867 Reform Act on stock prices. *Public Choice* 150, 609–631

Ukhov, A. (2003). Financial Innovation and Russian Government Debt Before 1918. Yale ICF Working Paper No. 03-20

Walkin, Jacob (1964). The Rise of Democracy in Pre-Revolutionary Russia: Political and Social Institutions under the Last Three Tsars. *Science and Society* 28 (3), 340–342.

Westwood, J. N. (1986). *Russia against Japan, 1904–1905: a new look at the Russo-Japanese War*. Macmillan: London

Wetzel, C. (1996). *Die Auswirkungen des Reichsbörsengesetzes von 1896 auf die Effektenbörsen im Deutschen Reich, insbesondere auf die Berliner Fondsbörse*. Lit: Münster

Willard, K. L., Guinnane, T. W., & Rosen, H. S. (1996). Turning Points in the Civil War: Views from the Greenback Market. *The American Economic Review*, 1001–1018.

Witte, S. (1923). *Erinnerungen*. Ullstein: Berlin

FAZ 2nd November 2015: Frankfurter Allgemeine Zeitung. Available online: <http://www.faz.net/aktuell/finanzen/aktien/nach-erdogan-wahlsieg-starker-kursanstieg-an-der-tuerkischen-boerse-13888979.html> (30.11.2015)

The Economist 25th October 2014. Available online: <http://www.economist.com/news/finance-and-economics/21627627-new-study-asks-how-long-chinese-economy-can-defy-odds-even-dragons-tire> (30.11.2015)

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